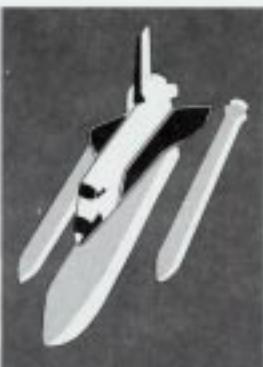




LAUNCH

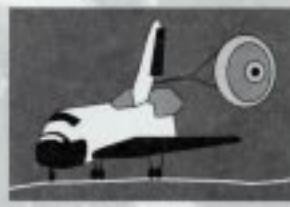


BOOSTER SEPARATION

EXTERNAL TANK  
SEPARATION AND  
ORBIT INSERTIONON-ORBIT  
OPERATIONS

RE-ENTRY

# Space Shuttle Glider Kit Assembly Instructions

AIRSTRIP  
LANDING

## Space Shuttle Glider Assembly

### Tools Needed:

Scissors  
Ruler  
Dull knife (butter knife)  
Stick glue, or white glue  
Cellophane tape (optional)

### Procedure

- Step 1. Cut out the entire pattern on the outside lines. The more careful the cutting, the better the finished glider will look.
- Step 2. Line up the ruler with the dashed fold lines. Pull the dull knife along the lines to score them. This will make folding more accurate.
- Step 3. Fold the paper on all dashed lines. The dashed line will be up for a mountain fold and down for a valley fold. See figure 2 below for details on the folds.
- Step 4. Lightly cover both pieces of nose strut 1 with glue. Fold it over the nose of the glider to form a triangle shape. Bend nose strut 2 over and press to strut 1 until the glue holds. See figure 1.
- Step 5. Coat the inside of each wing with glue and press top and bottom together. Be very careful to line up the parts. See figure 2.
- Step 6. Coat the inside of the tail pieces with glue. Also coat the outside of the four flaps along the payload bay with glue. Bring the two sides of the payload bay together so that all flaps slide inside the glider. Lightly press the payload bay and the tail pieces together until the glue holds.
- Step 7. Coat the inside surface of the nose on each side with glue and press them to the struts until the glue holds. If you wish, strengthen the nose with a small amount of cellophane tape.
- Step 8. Put a small amount of glue on the inside of the tiny triangle at the nose of the glider. Bend it upward to close the hole. As the glue dries, the triangle will stay put.

## Flying the Space Shuttle Glider

When the glue is dry, your glider is ready for flight tests. Depending upon how much glue you used, the glider may already be balanced for flight. Gently toss the glider forward with its nose slightly elevated. If it flies smoothly and lands flat on its bottom, the glider is ready. If not, it may be necessary to add a small amount of weight to its nose. Ball up a small piece of tissue paper and push it into the nose from the tail end of the glider with a pencil. Keep adding small pieces until the glider flies properly.

### Other Things to Do with the Space Shuttle Glider:

- The glider kit can be enlarged on a copy machine. This will change its scale. To determine the new scale, divide the length of the glider into the length of the real Space Shuttle (37 meters).
- Create a space diorama by suspending it inside a box that has been blackened.
- Create a space mobile with the Space Shuttle glider and other space-related objects (i.e., satellites, astronauts doing space walks, etc.).
- Use the glider as an ornament by coloring it and attaching a string to it for hanging.

Resource: Additional information on the Shuttle program can be accessed on the Internet at <http://shuttle.nasa.gov>



Figure 1

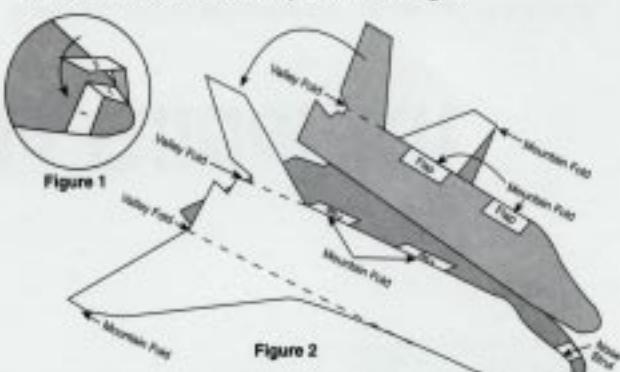
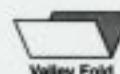


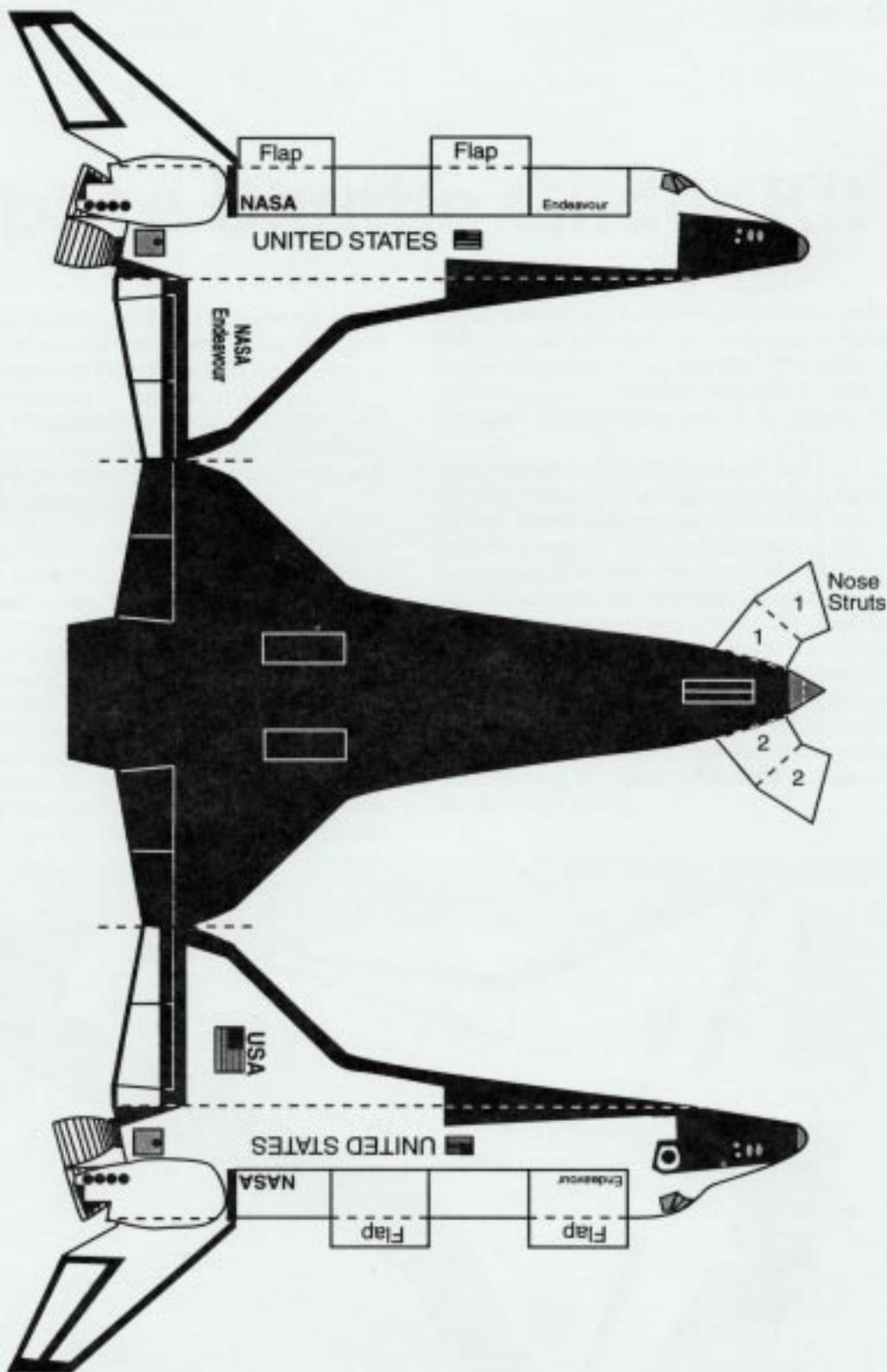
Figure 2



Mountain Fold



Valley Fold



Designed by Gregory Vogt, Crew Educational Affairs Liaison,  
NASA Johnson Space Center